

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended) A method operable within a network switch for managing a broadcast tree, said method comprising the steps of:

constructing a pruned broadcast tree by propagation of dynamic cost information packets from edge switches, wherein a dynamic cost information packet is sent by an edge switch and a receiving switch sends back a first acknowledgement packet to the edge switch in response to first dynamic cost information packet, and wherein the first acknowledgement packet will have a set broadcast learn flag to inform the edge switch that broadcast packets will be transmitted from a particular port of the edge switch, where the particular port has received the first acknowledgement packet with the set broadcast learn flag, where the first acknowledgment packet is used to establish a broadcast path from the edge switch to the receiving switch; and

forwarding received broadcast messages to other network devices in accordance with said pruned broadcast tree.

Claim 2 (original) The method of claim 1 wherein the step of constructing is responsive to exchange of load balancing information between said network switch and other cooperating network devices.

Claim 3 (original) The method of claim 2 wherein the step of constructing includes the steps of:

receiving a packet on a port within said network switch wherein said packet includes indicia requesting that said pruned broadcast tree include said port for future broadcast messages to an edge switch associated with said port; and

adding said port to said pruned broadcast tree for broadcast of messages to said edge switch in response to receipt of a first said packet.

Claim 4 (original) The method of claim 3 wherein the step of constructing further includes the steps of:

receiving a packet on a port within said network switch wherein said packet includes indicia requesting that said pruned broadcast tree exclude said port for future broadcast messages to an edge switch associated with said port; and

deleting said port from said pruned broadcast tree for broadcast of messages to said edge switch in response to receipt of a first said packet.

Claim 5 (original) The method of claim 3 wherein said packet is a cost acknowledgement packet.

Claim 6 (original) The method of claim 1 wherein said network switch is coupled to at least one cooperating network switch in a common load balance domain,

wherein the step of forwarding includes the steps of:

receiving a broadcast message of said broadcast messages on a port of said network switch in said pruned broadcast tree; and

transmitting said broadcast message out all other ports of said network switch which are said pruned broadcast tree.

Claim 7 (original) The method of claim 6 wherein the step of forwarding further includes:

transmitting said broadcast message out other ports of said network switch connected to devices not in said common load balance domain.

Claim 8 (original) The method of claim 1 further comprising the steps of:

sensing failure of a path associated with a port of said network switch on said pruned tree; and

updating said pruned broadcast tree in response to sensing said failure.

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Claim 9 (original) The method of claim 8 wherein the step of updating includes the step of:

determining a second port of said network switch which may be used for forwarding of broadcast messages; and

sending a packet out said second port indicative of devices to which broadcast messages may be forwarded via said second port.

Claim 10 (original) The method of claim 9 further comprising the step of:

determining that other network switches depended upon said path of said network switch for broadcast to other devices; and

sending a packet from said network switch to said other switches indicative of said failure of said path.

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Claim 11 (currently amended) A network switch including a computer readable storage medium tangibly embodying a method operable within said network switch for managing a broadcast tree, said method comprising the steps of:

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constructing a pruned broadcast tree by propagation of dynamic cost information packets from edge switches, wherein a dynamic cost information packet is sent by an edge switch and a receiving switch sends back a first acknowledgement packet to the edge switch in response to first dynamic cost information packet, and wherein the first acknowledgement packet will have a set broadcast learn flag to inform the edge switch that broadcast packets will be transmitted from a particular port of the edge switch, where the particular port has received the first acknowledgement packet with the set broadcast learn flag, where the first acknowledgement packet is used to establish a broadcast path from the edge switch to the receiving switch; and

forwarding received broadcast messages to other network devices in accordance with said pruned broadcast tree.

Claim 12 (original) The switch of claim 11 wherein the method step of constructing is responsive to exchange of load balancing information between said network switch and other cooperating network devices.

Claim 13 (original) The method of claim 12 wherein the method step of constructing includes the steps of:

receiving a packet on a port within said network switch wherein said packet includes indicia requesting that said pruned broadcast tree include said port for future broadcast messages to an edge switch associated with said port; and

adding said port to said pruned broadcast tree for broadcast of messages to said edge switch in response to receipt of a first said packet.

Claim 14 (original) The method of claim 13 wherein the method step of constructing further includes the steps of:

receiving a packet on a port within said network switch wherein said packet includes indicia requesting that said pruned broadcast tree exclude said port for future broadcast messages to an edge switch associated with said port; and

deleting said port from said pruned broadcast tree for broadcast of messages to said edge switch in response to receipt of a first said packet.

Claim 15 (original) The switch of claim 13 wherein said packet is a cost acknowledgement packet.

Claim 16 (original) The switch of claim 11 wherein said network switch is coupled to at least one cooperating network switch in a common load balance domain,

wherein the method step of forwarding includes the steps of:

receiving a broadcast message of said broadcast messages on a port of said network switch in said pruned broadcast tree; and

transmitting said broadcast message out all other ports of said network switch which are in said pruned broadcast tree.

Claim 17 (original) The switch of claim 16 wherein the method step of forwarding further includes:

transmitting said broadcast message out other ports of said network switch connected to devices not in said common load balance domain.

Claim 18 (original) The switch of claim 11 wherein the method further comprises the steps of:

sensing failure of a path associated with a port of said network switch on said pruned tree; and

updating said pruned broadcast tree in response to sensing said failure.

Claim 19 (original) The switch of claim 18 wherein the method step of updating includes the step of:

determining a second port of said network switch which may be used for forwarding of broadcast messages; and

sending a packet out said second port indicative of devices to which broadcast messages may be forwarded via said second port.

Claim 20 (original) The switch of claim 19 wherein the method further comprises the step of:

determining that other network switches depended upon said path of said network switch for broadcast to other devices; and

sending a packet from said network switch to said other switches indicative of said failure of said path.

Claim 21-22 (previously cancelled)

Claim 23 (previously presented) The method of claim 1, wherein the dynamic cost information packet includes cost that is updated periodically.

Claim 24-25 (previously cancelled)

Claim 26 (previously presented) The network of claim 11, wherein the dynamic cost information packet includes cost that is updated periodically.

Claim 27 (cancelled)

Claim 28 (previously presented) The method of claim 1, wherein the edge switch can receive a second acknowledgment packet subsequently to receiving the first acknowledgment packet, and wherein the second acknowledgement packet will not include a set broadcast learn flag.

Claim 29 (previously presented) The method of claim 1, further comprising:

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in response to a link failure, constructing a new pruned broadcast tree, including receiving a new dynamic cost information packet, removing all broadcast paths to other switches, and sending a new acknowledgement packet in response to the new dynamic cost information packet in order to establish a new broadcast path.

Claim 30 (cancelled)

Claim 31 (previously presented) The method of claim 11, wherein the edge switch can receive a second acknowledgment packet subsequently to receiving the first acknowledgment packet, and wherein the second acknowledgement packet will not include a set broadcast learn flag.

Claim 32 (previously presented) The method of claim 11, further comprising:

in response to a link failure, constructing a new pruned broadcast tree, including receiving a new dynamic cost information packet, removing all broadcast paths to other switches, and sending a new acknowledgement packet

in response to the new dynamic cost information packet  
in order to establish a new broadcast path.